

AMENDMENTS OF THE CLAIMS

A detailed listing of all claims in the application is presented below. This listing of claims will replace all prior versions, and listings, of claims in the application. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to immediate prior version of the claims. The changes in any amended claim are being shown by strikethrough (for deleted matter) or underlined (for added matter).

1. (Original) A system supporting a sash that is laterally removable from between opposed window jambs, the system comprising:
 - a. a pair of sash support arms mounted to hang freely downward on respective opposite stiles of the sash and to pivot from downwardly hanging positions to outwardly extended positions that the support arms assume when supporting the sash;
 - b. the sash support arms in the downwardly hanging positions being disposed so that as the sash is lowered toward a supported position, the downwardly hanging arms engage sash supporting platforms of counterbalanced sash shoes locked into the jambs so that sash-lowering engagement between the arms and the platforms pivots the arms outward along the platforms; and
 - c. outer end regions of the sash support arms in the outwardly extended positions resting on regions of the platforms spaced from the sash and arranged vertically under counterbalance elements connected to the shoes to support the weight of the sash.
2. (Original) The system of claim 1 wherein the sash supporting platforms of the shoes extend toward the sash stiles so that inner regions of the platforms engage the sash support arms in the downwardly hanging positions and so that outer regions of the platforms engage the outer end regions of the sash support arms in the outwardly extended positions.

3. (Original) The system of claim 2 wherein the counterbalance elements are connected to the shoes in regions vertically above the outer platform regions.
4. (Original) The system of claim 1 wherein the shoes include locking elements deployable to lock the shoes to jamb projections during removal and replacement of the sash.
5. (Original) The system of claim 4 wherein the locking elements are pivotally mounted on the shoes and latched in undeployed positions out of engagement with window jambs.
6. (Original) The system of claim 4 wherein the locking elements are formed as extruded metal hooks.
7. (Previously presented) The system of claim 1 wherein the shoes and the sash support arms are each formed of metal extrusions.
8. (Original) The system of claim 7 wherein the shoes are available in different widths formed as different predetermined lengths of the shoe extrusion so that different widths of shoes fit different widths of jamb channels.
9. (Original) The system of claim 8 wherein shoes of different widths are adapted to connect to different numbers of counterbalance elements.
10. (Original) The system of claim 7 wherein the extrusions for the sash support arms are available in different lengths to fit different jamb dimensions.
11. (Original) The system of claim 10 wherein the different length sash support arms have extruded code lines indicating size.
12. (Cancelled)
13. (Cancelled).
14. (Cancelled).
15. (Cancelled)
16. (Cancelled).

17. (Cancelled)

18. (Currently amended) ~~The improvement of claim 16 wherein the~~ In a system counterbalancing a window sash supported by a pair of counterbalanced sash shoes so that the sash extends between a pair of jambs from which the sash is removable by maneuvering the sash upward and laterally while the shoes are locked in the jambs, the improvement comprising:

a. the shoes including locking elements are formed as hooks that catch on and engage the jamb projections, to lock the shoes during sash removal and replacement and the shoes have latches that latch the locking elements in undeployed positions out of engagement with the jamb projections and the shoes being formed of a metal extrusion having a predetermined profile extending for a width of each of the shoes, establishing a configuration of each of the shoes;
and

b. the configuration extending in a single piece of the predetermined extrusion profile from a hook-shaped upper region formed to interconnect with a counterbalance element to an L-shaped lower region forming a platform extending toward the sash from vertically below the upper region.

19. (Cancelled)

20. (Cancelled)

21. (Currently amended) In a system counterbalancing a window sash supported by a pair of counterbalanced sash shoes so that the sash extends between a pair of jambs from which the sash is removable by maneuvering the sash upward and laterally while the shoes are locked in the jambs, the improvement comprising:

a. the shoes being formed of a metal extrusion having a predetermined profile extending for a width of each of the shoes ~~The improvement of claim 20, wherein the shoe profile configuration includes and~~

including a latch retaining groove for receiving a hook latch and a pin groove for receiving a pivot pin of the hook latch and establishing a configuration of a mid-region of each of the shoes being formed to support a guide that slides in each respective one of the jambs to guide vertical movement of each of respective one of the shoes and including a guide retaining groove that receives the guide; and

b. the configuration extending in a single piece of the predetermined extrusion profile from a hook-shaped upper region formed to interconnect with a counterbalance element to an L-shaped lower region forming a platform extending toward the sash from vertically below the upper region.

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Withdrawn)

27. (Withdrawn)

28. (Withdrawn)

29. (Withdrawn)

30. (Withdrawn)

31. (Withdrawn)

32. (Withdrawn)

33. (Withdrawn)

34. (Withdrawn)

35. (Withdrawn).

36. (Withdrawn)

37. (Withdrawn)

38. (Withdrawn)

39. (Currently amended) A sash support system comprising:

- a. a plurality of sash support elements each formed of a metal extrusion having a profile establishing a respective configuration of each element;
- b. the configuration of a first one of the extruded elements forming a shoe extending in a single extruded piece from a hook-shaped upper region engaging a counterbalance to a platform-shaped lower region supporting a sash; and
- c. the configuration of a second one of the extruded elements forming a sash support arm pivotally connected to a stile of the sash to engage the platform-shaped lower region of the shoe when the sash support arm is extends outwardly of the sash ~~extended~~ and to drop to a downwardly dependent position when the sash support arm does not engage the platform shaped lower region.

40. (Currently amended) The system of claim 39 wherein the configuration of a third one of the extruded elements forms a shoe lock connected to the shoe below the platform shaped lower region to be movable between deployed and undeployed positions.

41. (Currently amended) The system of claim 40 wherein the shoe ~~profile~~ includes a pin groove for receiving a pivot pin supporting the shoe lock.

42. (Original) The system of claim 40 including a resilient latch mounted on the shoe for retaining the shoe lock in the undeployed position.

43. (Original) The system of claim 42 wherein the shoe lock and the latch are configured so that the shoe lock is manually latchable and unlatchable.
44. (Original) The system of claim 40 wherein the shoe lock is pivotally movable between the deployed and undeployed positions and is downwardly dependent from the shoe in the deployed position.
45. (Original) The system of claim 39 including a resin guide mounted on the shoe.
46. (Previously presented) The system of claim 45 wherein the configuration of a mid-region of the shoe is formed with a locking slot for receiving the resin guide.
47. (Previously presented) The system of claim 39 wherein the sash support arm is pivotally mounted on the sash stile to move to the outwardly extending position supporting the sash upon engagement with the platform shaped lower region and to move to the downwardly hanging position upon disengagement with the platform shaped lower region.
48. (Original) The system of claim 47 wherein the sash support arm braces against a mounting bracket limiting movement of the sash support arm beyond the outwardly extending and downwardly hanging positions.
49. (Original) The system of claim 39 wherein the shoe is available in different widths established by different predetermined lengths of the first extruded element to accommodate different widths of jamb shoe channels.
50. (Previously presented) The system of claim 49 wherein upper regions of different shoe widths connect respectively to different numbers of counterbalance elements.
51. (Previously presented) The system of claim 39 wherein the sash support arm is available from a plurality of extrusions having different profiles establishing different lengths for the support arm.
52. (Previously presented) The system of claim 51 wherein the plurality of extrusions for the sash support arm are formed with code lines indicating different arm lengths.

53. (Previously presented) A sash support comprising:

- a. sash support arms movably mounted respectively on each stile of a sash so that the support arms hang downward in dependent positions when not supporting the sash and move outward to braced positions in response to engagement of the support arms with locked sash shoes as the sash is lowered between the shoes so that the weight of the lowered sash urges the sash support arms outward on the shoes to the braced positions; and
- b. the support arms in the braced positions having end regions resting on respective sash shoes in sash support regions of the shoes vertically under counterbalance regions of the shoes where counterbalance elements connect to the shoes to minimize any moment arms tending to turn the shoes around horizontal axes.

54. (Original) The support of claim 53 wherein mounting brackets pivotally mount the support arms on the sash stiles and limit movement of the support arms beyond the downwardly hanging and braced positions.

55. (Currently amended) A sash support comprising:

- a. sash support arms movably mounted respectively on each stile of a sash so that the support arms hang downward in dependent positions when not supporting the sash and move outward to braced positions in response to engagement of the support arms with locked sash shoes as the sash is lowered between the shoes so that the weight of the lowered sash urges the sash support arms outward on the shoes to the braced positions; and
- b. the support arms in the braced positions having end regions resting on respective sash shoes in sash support regions of the shoes vertically under counterbalance regions of the shoes where counterbalance elements connect to the shoes to minimize any moment arms tending to turn the shoes around horizontal axes. ~~The support of claim 60 wherein the shoes are formed of a metal~~ the extrusion for the shoes that forms the counterbalance regions vertically above the sash support regions that are engaging engaged by end regions of the support arms in the their braced positions.

56. (Original) The support of claim 55 wherein the support regions of the shoes extend toward the sash stiles to engage the support arms in their downwardly hanging positions when the sash is lowered into engagement with the shoes.
57. (Original) The support of claim 56 wherein the support arms move from their downwardly hanging positions to their outward braced positions by sliding along the support regions of the shoes as the sash is lowered.
58. (Previously presented) The support of claim 53 wherein the sash support arms are formed of a metal extrusion.
59. (Previously presented) The support of claim 58 wherein a plurality of extrusions for the support arms have different profiles establishing different arm lengths and are provided with extruded coding lines indicating support arm length.
60. (Previously presented) The support of claim 53 wherein the shoes are formed of a metal extrusion
61. (Cancelled)
62. (Original) A system locking counterbalance shoes to window jambs while a sash supported on the shoes is removed from between the window jambs, the system comprising:
- a. the shoes having hooks that are pivotally mounted on the shoes below sash supporting platforms of the shoes so that the hooks can move between latched and unlatched positions while a sash is supported on the platforms;
 - b. the hooks in unlatched positions hanging dependently downward from the shoes below the sash supporting platforms where the hooks are disposed to hook under lances formed in the jambs as the shoes rise;
 - c. the hooks in latched positions being retained out of engagement with the jambs and clear of the lances; and

d. ~~The system of claim 61 wherein~~ resilient latches are carried on the shoes for holding the hooks in the latched positions.

63. (Original) The system of claim 62 wherein the hooks are manually movable into the latched positions and are released from the latched positions by pressing between ends of the hook and the latch.

64. (Cancelled)

65. (Cancelled)

66. (Currently Amended) A system locking counterbalance shoes to window jambs while a sash supported on the shoes is removed from between the window jambs, the system comprising:

- a. the shoes being formed of a metal extrusion and having hooks also formed of a metal extrusion with the hooks pivotally mounted on the shoes below sash supporting platforms of the shoes so that the hooks can move between latched and unlatched positions while the sash is supported on the platforms, the shoes having extrusion-formed grooves that receive pivot pins supporting the hooks, and ~~The system of claim 65 wherein the shoes have~~ extrusion-formed slots that retain the resilient latches for holding the hooks in the latched positions;
- b. the hooks in unlatched positions hanging dependently downward from the shoes below the sash supporting platforms where the hooks are disposed to hook under lances formed in the jambs as the shoes rise; and
- c. the hooks in latched positions being retained out of engagement with the jambs and clear of the lances.

67. (Currently amended) A system supporting a sash that is laterally removable from between opposed window jambs and is supported on counterbalanced shoes that run vertically

within the jambs and are separated sufficiently to allow lateral movement of the sash, the system comprising:

- a. the shoes having platforms that extend toward the sash to support the sash;
 - b. the sash having a pair of stiles and a pair of support arms connected respectively to the ~~secured to each of two stiles of the sash~~ so that the sash support arms rest in downwardly hanging positions in which lower ends of the support arms engage sash end regions of the shoe platforms when the sash and the support arms are moved downward from above the shoe platforms;
 - c. the sash support arms being mounted on the sash to pivot between the downwardly hanging positions and outwardly extending positions in which the sash support arms engage jamb end regions of the shoe platforms as weight of the downwardly moved sash transfers to the shoes via the support arms; and
 - d. counterbalance elements exerting a lifting force on the shoes in regions vertically above the jamb end regions of the shoe platforms engaged by the sash support arms in the outwardly extending positions.
68. (Original) The system of claim 67 wherein the shoe platforms are configured with steps that the ends of the support arms slide downward over as the support arms move from the sash end regions to the jamb end regions of the shoe platforms.
69. (Original) The system of claim 67 wherein the sash support arms are braced against movement beyond the downward hanging positions and the outwardly extending positions.
70. (Previously presented) The system of claim 67 wherein the sash support arms are formed of a metal extrusion.
71. (Original) The system of claim 70 wherein the extrusions are available in different profiles forming support arms of different lengths to accommodate the sash to different window dimensions.

72. (Previously presented) The system of claim 71 wherein the extrusions of different profiles are formed with coding lines to indicate the different lengths of the sash support arms.

73. (Previously presented) The system of claim 67 wherein the shoes are formed of a metal extrusion.

74. (Cancelled)

75. (Cancelled)

76. (Cancelled)

77. (Cancelled)

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81. (Cancelled)

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89. (Cancelled)

90. (Cancelled)